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REMARKS

The present application was originally filed with 10 Claims. In a Restriction Requirement, the Examiner restricted the Claims into 6 Groups, as indicated below:

- I. Group I contains Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 27 in the sequence of subtilisin BPN';
- II. Group II contains Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 45 in the sequence of subtilisin BPN';
- III. Group III contains Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 170 in the sequence of subtilisin BPN';
- IV. Group IV contains Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 181 in the sequence of subtilisin BPN';
- V. Group V contains Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 251 in the sequence of subtilisin BPN'; and
- VI. Group VI contains Claims 1-10, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 271 in the sequence of subtilisin BPN'.

The Examiner also made a species election requirement, as follows:

- A. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 1;
- B. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 14;
- C. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 49;
- D. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 61;

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E. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 87;

F. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 100;

G. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 102;

H. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 118;

I. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 128;

J. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 204; and

K. A subtilisin variant comprising an additional amino acid substitution at the subtilisin BPN'-correspondent position 258.

In a Response filed December 23, 2005, Applicants elected the Claims In Group III (Claims 1-10, directed to substitution at position 170) without traverse. Applicants further elected the species set forth in Group E (position 87). Applicants respectfully requested rejoinder of the remaining species, upon determination that the elected species Claims are allowable.

In the present Office Action, the Examiner has objected to the term "carbonyl hydrolases" on page 1. Applicants must respectfully submit that the sentence on page 1, line 1, simply indicates that serine proteases are a subgroup of the larger group of enzymes designated as "carbonyl hydrolases." The text further describes the structure and function of serine proteases and subtilisins in particular. The Examiner has also objected to the lack of the Provisional application serial number 60/440,792 at line 12 on page 18. Applicants have amended the Specification to recite this serial number. Applicants have also amended the Specification to recite the SEQ ID NOS, as needed. Applicants are also submitting the Sequence Listing and Statement of Sameness herewith. The primer sequences on page 37, as well as the GG36 sequences are disclosed in the application as filed and are included in the Sequence Listing provided herewith.

Claim 3 has been objected to for improper *Markush* recitations. Claim 3 has been amended to correct this inadvertent error. Claim 4 has been objected to for the recitation of "comprises comprising." Claim 4 has also been amended. Claim 5 has been objected to for

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number agreement. Applicants respectfully submit that in the Response to Restriction Requirement filed December 23, 2005, "positions" was amended to "position." However, Claim 5 has been amended to indicate that the position corresponds to position 87 of SEQ ID NO:3. Claim 6 has been objected to as being of improper dependent form. No new matter is added in these amendments, as they find more than sufficient support in the Specification and Claims as filed.

The Examiner has made various rejections, addressed in the following order:

- 1) Claims 1, 2, and 7-10 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly not meeting the written description requirement;
- 2) Claims 1, 2, and 7-10 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly not meeting the enablement requirement;
- 3) Claims 1-10 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite;
- 4) Claims 1-3 and 7-10 stand rejected under 35 U.S.C. §102(b), as allegedly being anticipated by Vetter *et al.* (US Pat. No. 5,453,372);
- 5) Claims 1-4 and 7-10 stand rejected under 35 U.S.C. §102(e), as allegedly being anticipated by van der Osten *et al.* (US Pat. No. 6,300,116);
- 6) Claims 1-5 and 7-10 stand rejected under 35 U.S.C. §102(e), as allegedly being anticipated by Hansen *et al.* (US Pat. No. 6,605,458); and
- 7) Claim 6 stands rejected under 35 U.S.C. §103(a), as allegedly being unpatentable over either van der Osten *et al.* or Hansen *et al.*, as applied to Claims 1-4, in view of Vetter *et al.*

1) The Written Description Requirement Is Met

The Examiner has rejected Claims 1, 2, and 7-10 under 35 U.S.C. §112, first paragraph as allegedly not meeting the written description requirement. While Applicants must respectfully disagree, in order to further the prosecution of the present application and Applicants' business interests, yet without acquiescing to the Examiner's arguments, Applicants have cancelled Claims 1-2 and amended Claims 7 and 10, without prejudice. The recitation of Claim 1 has been incorporated into amended Claim 3 and new Claim 12 corresponds to Claim 2, but is dependent upon Claim 3. Applicants reserve the right to pursue the cancelled and/or additional Claims in one or more subsequently filed applications. Applicants respectfully submit that the pending Claims are fully supported by the Specification and that the written description requirement is met. Applicants respectfully request that this rejection be withdrawn.

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2) The Enablement Requirement is Met

The Examiner has rejected Claims 1, 2, and 7-10 under 35 U.S.C. §112, first paragraph, as allegedly not meeting the enablement requirement. Applicants note that the Examiner has admitted that the Specification is enabling for modifications of the members of the class of serine proteases known as subtilisins. As indicated above, while Applicants must respectfully disagree, in order to further the prosecution of the present application and Applicants' business interests, yet without acquiescing to the Examiner's arguments, Applicants have cancelled Claims 1-2 and amended Claims 7 and 10, without prejudice. The recitation of Claim 1 has been incorporated into amended Claim 3 and new Claim 12 corresponds to Claim 2, but is dependent upon Claim 3. Applicants reserve the right to pursue the cancelled and/or additional Claims in one or more subsequently filed applications. Applicants respectfully submit that the pending Claims are fully enabled by the Specification and that the enablement requirement is met. Applicants respectfully request that this rejection be withdrawn.

3) The Claims are Definite

The Examiner has rejected Claims 1-10 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. As indicated above, while Applicants must respectfully disagree, in order to further the prosecution of the present application and Applicants' business interests, yet without acquiescing to the Examiner's arguments, Applicants have cancelled Claims 1-2, and 4, and amended Claims 3, 5-7 and 10, without prejudice. Applicants reserve the right to pursue the cancelled and/or additional Claims in one or more subsequently filed applications. Applicants respectfully submit that the pending Claims are definite. Thus, Applicants respectfully request that this rejection be withdrawn.

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4-6) The Claims are Novel

The Examiner has rejected Claims 1-3 and 7-10 under 35 U.S.C. §102(b), as allegedly being anticipated by Vetter *et al.* (US Pat. No. 5,453,372). In addition, Claims 1-4 and 7-10 stand rejected under 35 U.S.C. §102(e), as allegedly being anticipated by van der Osten *et al.* (US Pat. No. 6,300,116); and Claims 1-5 and 7-10 stand rejected under 35 U.S.C. §102(e), as allegedly being anticipated by Hansen *et al.* (US Pat. No. 6,605,458). Applicants must respectfully disagree. As indicated above, Claims 1-2 and 4 have been cancelled, rendering this rejection moot. Claim 3 has been amended, as have Claims 7 and 10. These cancellations and amendments are made without prejudice, as Applicants reserve the right to pursue these and/or similar Claims in one or more subsequently filed applications.

The Examiner argues that the Vetter *et al.* reference anticipates Claims 1-3 and 7-10, for teaching substitutions in positions corresponding to positions 170, 44, and 256 of the BPN' subtilisin sequence. As indicated above, while Applicants must respectfully disagree, in order to further the prosecution of the present application and Applicants' business interests, yet without acquiescing to the Examiner's arguments, Applicants have cancelled Claims 1-2, and 4, and amended Claims 3, 5-7 and 10, without prejudice. As the Vetter *et al.* reference does not disclose the combination of substitutions in the amended Claims Applicants respectfully submit that the Vetter *et al.* reference does not anticipate the Claims. Applicants reserve the right to pursue the cancelled and/or additional Claims in one or more subsequently filed applications. Applicants respectfully submit that the pending Claims are novel. Thus, Applicants respectfully request that this rejection be withdrawn.

The Examiner also argues that Claims 1-4 and 7-10 are anticipated under 35 U.S.C. §102(e), as being allegedly anticipated by van der Osten *et al.* and also by Hansen *et al.* As indicated above, while Applicants must respectfully disagree, in order to further the prosecution of the present application and Applicants' business interests, yet without acquiescing to the Examiner's arguments, Applicants have cancelled Claims 1-2, and 4, and amended Claims 3, 5-7 and 10, without prejudice. As neither the van der Osten *et al.* nor the Hansen *et al.* reference disclose the combination of substitutions in the amended Claims Applicants respectfully submit that the van der Osten *et al.* and Hansen *et al.* references do not anticipate the Claims. Applicants reserve the right to pursue the cancelled and/or additional Claims in one or more subsequently filed applications. Applicants respectfully submit that the pending Claims are novel. Thus, Applicants respectfully request that this rejection be withdrawn.

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7) The Claims are Unobvious

The Examiner has rejected Claim 6 under 35 U.S.C. §103(a), as allegedly being unpatentable over either van der Osten *et al.* or Hansen *et al.*, as applied to Claims 1-4, in view of Vetter *et al.* As above, while Applicants must respectfully disagree, in order to further the prosecution of the present application and Applicants' business interests, yet without acquiescing to the Examiner's arguments, Applicants have cancelled Claim 6, rendering this rejection moot. Applicants reserve the right to pursue the cancelled and/or additional Claims in one or more subsequently filed applications. Applicants respectfully request that this rejection be withdrawn.

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CONCLUSION

As all of the grounds of the Examiner's rejections have been addressed and in view of the above remarks, the Applicants believe the pending Claims are in condition for allowance and issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner has any questions regarding the present application he or she is encouraged to contact the undersigned.

Respectfully submitted,

Dated: September 25, 2006


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